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# ASSESSING THE U.S. GULF COAST IN-PORT GRAIN LOADING LEVELS BEFORE AND AFTER THE 2011 MISSISSIPPI RIVER FLOOD

**Daniel Adrian Doss, University of West Alabama**  
**Rebecca Goza, University of Central Oklahoma**  
**Russ Henley, University of West Alabama**  
**David McElreath, University of Mississippi**  
**Shimin Lin, University of West Alabama**  
**Glenna Lusk, University of Mississippi**

## ABSTRACT

*The 2011 Mississippi River flood represented one of the worst floods in American history. Despite its devastation, economic activity emerged succeeding the event. No guarantee exists that locations will recover completely and achieves the same level of normalcy that existed before disasters occur. Given these notions, this study briefly examines the in-port grain loading activities and levels among Gulf Coast ports before and after the 2011 flood. The outcome of the study showed a statistically significant difference between the examined periods.*

## INTRODUCTION

Sea ports along the Gulf of Mexico process a variety of international agricultural maritime shipments. Agricultural products both arrive at and depart from the U.S. among these ports. Based on U.S. Department of Agriculture data, annually processed agricultural tonnages for the top five Gulf Coast ports are presented within the following table (USDA, 2013):

<b>Table 1</b>				
<b>GULF COAST PORT TONNAGES</b>				
<b>Port</b>	<b>State</b>	<b>Imports</b>	<b>Exports</b>	<b>Total</b>
Beaumont	TX	47,078	1,658,354	1,705,432
Galveston	TX	298,841	3,343,325	3,642,166
Corpus Christi	TX	39,385	4,068,528	4,107,913
Houston	TX	1,796,448	7,425,281	9,221,729
New Orleans	LA	1,905,984	59,716,467	61,622,451

Note: Imports, exports, and totals are measured in metric tonnages.

Gulf Coast ports are integral resources for distributing materials via the Mississippi River (USDA, 2013). Thus, their functioning has the potential of impacting not only local and regional economies, but also the national economy. Disasters that eliminate or impair the functioning of an economic component also have the potential of affecting the national economy and impacting homeland security considerations (Doss, et al., 2016). Calamities that impact the Gulf Coast region must be considered seriously as incidents whose potential may affect economic

performance through time. Given such notions, this study investigated differences regarding Gulf Coast agricultural port activities before and after the 2011 Mississippi River flood.

## RELEVANT LITERATURE

Flooding is an expected danger throughout the Gulf Coast region (Doss Sumrall, McElreath, & Jones, 2013; McElreath, et al., 2014b). A notable calamity that affected the Gulf Coast region was the 2011 Mississippi River flood. Flooding interjected unprecedented amounts of water among inland areas (Doss, Glover, Goza, & Wigginton, 2015). Approximately 6.35 million acres were flooded whereas approximately 1.5 million backwater and floodway acres were unused (Pathak, 2013). Among some urban regions, such as Memphis, Tennessee, the Mississippi River spanned six times its normal width (Goldenberg, 2011). Runoff water amounts were approximately 61 million acre-feet representing the highest runoff levels in 114 years (Pathak, 2013). Along the Missouri, the Big Bend and Garrison spillways, two of the mainstem dams, were operated for the very first time (Pathak, 2013). Destruction ravaged small towns and communities along the flooded regions. For instance, near Tunica and Greenville, both in Mississippi, over 300 and 800 homes were destroyed, respectively (Doss, et al., 2016). Not since the floods of 1927 and 1937 had the region experienced such flooding devastation (Pallardy, 2016).

## RESEARCH QUESTION AND HYPOTHESIS

The primary research question was stated as follows: is there a statistically significant difference between levels of U.S. Gulf vessel grain loading activity at Gulf Coast ports before the 2011 Mississippi River flood versus after the 2011 Mississippi River flood? Derived from this research question, the null hypothesis within this research study is given as follows:

*H1 This is no statistically significant difference between levels of in-port U.S. Gulf vessel loading activity at Gulf Coast ports before the 2011 Mississippi River flood versus after the 2011 Mississippi River flood.*

## METHODOLOGY

The methodology for this study involved the use of data obtained from the U.S. Department of Agriculture. The data set spanned a period of 21 years between the first quarter of 1995 and the first quarter of 2016. Data items represented the quantities of aggregated Gulf Coast in-port grain loading events that occurred weekly throughout the considered period. The data were separated into two separate groupings: a) data between 1995 and 2010 and b) data between 2010 and 2016. The demarcation point within the data set was the 2011 Mississippi River flood. These separate data groups, representing before and after perspectives of the cataclysm, were examined via hypothesis testing.

Data processing was accomplished via the two-tailed, one-way analysis of variance (ANOVA) to examine the differences between grain loads among U.S. Gulf of Mexico ports before and after the 2011 Mississippi River flood. The ANOVA paradigm was selected because it facilitates an examination of means among multiple data sets to investigate whether the presence of a statistically significant difference exists via testing means for equality (Cooper & Schindler, 2010). When testing hypothesis, the two-tailed method implies that a null hypothesis may be rejected upwardly or downwardly by considering deviation (Dytham, 2011).

The ANOVA paradigm is appropriate when one independent variable exists within a research endeavor (Coladarci, Cobb, Minium, & Clarke, 2011). Within this study, the independent variable represented load change whereas the dependent variable consisted of data preceding the event and data succeeding the event thereby representing two groupings of data. The means of the examined data sets were evaluated for equality via hypothesis testing. When performing hypothesis tests, the p-value approach represents a method of determining whether the null hypothesis,  $H_0$ , may be rejected (Petrie & Watson, 2013). The p-value approach represented the hypothesis testing method for this study. The level of significance for performing the hypothesis test was 0.05.

Effect size reflects the variance proportion of the dependent variable that may be explainable by the attributes of the independent variable (Nolan & Heinzen, 2012). Essentially, an effect size indicates the largeness of effect regardless of the size of the sample (Doss, 2014). Within this study, the Omega-squared method was used to examine the characteristics of effect size regarding the hypothesis testing outcome.

Derivation of percent change shows the amount of change that occurred within a given variable (Wessels, 1997). Within this study, the value of percent change was calculated to examine quantitatively the amount of change that occurred regarding the periods before and after the flooding incident.

## FINDINGS

The following tables show descriptive characteristics for the evaluated data items.

<b>Table 2</b>					
<b>DATA CHARACTERISTICS</b>					
<b>Period</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Variance</b>	<b>Median</b>	<b>Mode</b>
Cumulative	34.22	12.18	148.26	33	29
Before Event	33.28	11.12	123.63	32	29
After Event	36.88	14.35	205.80	36	33

Note. Demarcation point separating event data was April 20, 2010. Units of measurement represent weekly values of in-port events.

Using the p-value approach, hypothesis testing revealed a statistically significant outcome ( $p = 0.00001$ ) regarding the considered hypothesis. The significance level for hypothesis testing was 0.05 (i.e.,  $p < 0.05$ ). Thus, the null hypothesis,  $H_0$ , was rejected. It appears that a statistically significant difference exists between in-port levels of U.S. Gulf vessel loading activity at Gulf Coast ports before the 2011 Mississippi River flood versus after the incident.

Given the existence of a statistically significant difference, the hypothesis testing outcome may be considered with respect to effect size. Using the Omega-squared method, the effect size value was determined to be 0.0175. Barker, McCarthy, Jones, and Moran (2011) indicate that effect size values below 0.20 represent low, small effects regarding the interaction between the independent and dependent variables. Thus, given an effect size of 0.0175, little effect is suggested regarding the interaction between the independent and dependent variables examined within this study.

Percent change was considered regarding the periods before and after the 2011 Mississippi River flooding incident. The percent change outcome value was determined to be 10.26%. This outcome suggests increases regarding the examined total loading activities

occurring with respect to the periods before and after the 2011 Mississippi River flood, however at a diminished level than that which had been trending prior to the disaster. The examined period ranges from 16 years before the event to five years after the event.

## CONCLUSION

The 2011 Mississippi River flood was one of the worst floods in American history. Given the findings of this study, a statistically significant outcome ( $p = 0.00001$ ;  $\alpha = 0.05$ ) exists regarding the grain loading activities before and after the incident. Examining the loading levels preceding and succeeding the event indicated a percent change value of 10.26% thereby indicating diminished activity levels with respect to prior monthly trends. Of particular interest, a monthly percentage change analysis depicts the diminished activity levels immediately following the month of the disaster.

The negative effects of man-made disasters have affected the American economy multiple times. Despite the best efforts to achieve normalcy after an incident occurs, not all scenarios generate a full recovery. For instance, the city of Galveston, Texas never regained its economic status as a Gulf Coast port after experiencing a 1900 hurricane (McElreath, et al., 2016). Similarly, New Orleans did not fully reclaim its former glory following Hurricane Katrina (McElreath, et al., 2016). Five years after the Mississippi River flooding, given the outcomes of this study, some arguments may be made that the affected in-port Gulf Coast grain loading activity has not recovered and achieved the level of normalcy that existed before the cataclysm.

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# ANALYZING THE U.S. GULF COAST IN-PORT GRAIN LOADING LEVELS BEFORE AND AFTER HURRICANE KATRINA

**Daniel Adrian Doss, University of West Alabama**  
**Russ Henley, University of West Alabama**  
**Rebecca Goza, University of Central Oklahoma**  
**David McElreath, University of Mississippi**  
**Glenna Lusk, University of Mississippi**  
**Shimin Lin, University of West Alabama**

## ABSTRACT

*During 2005, Hurricane Katrina ravaged areas along the Gulf Coast. Despite its devastation, economic activity emerged succeeding the event. No guarantee exists that locations will recover completely and achieves the same level of normalcy that existed before disasters occur. Given these notions, this study briefly examines the in-port grain loading activities and levels among Gulf Coast ports before and after Hurricane Katrina. The outcome of the study showed a statistically significant difference between the examined periods.*

## INTRODUCTION

Sea ports along the Gulf of Mexico process a variety of international agricultural maritime shipments. Based on U.S. Department of Agriculture data, annually processed agricultural tonnages for the top five Gulf Coast ports are presented within the following table (USDA, 2013):

<b>Table 1</b>				
<b>GULF COAST PORT TONNAGES</b>				
<b>Total Tonnages</b>	<b>Port</b>	<b>State</b>	<b>Imports</b>	<b>Exports</b>
1,705,432	Beaumont	TX	47,078	1,658,354
3,642,166	Galveston	TX	298,841	3,343,325
4,107,913	Corpus Christi	TX	39,385	4,068,528
9,221,729	Houston	TX	1,796,448	7,425,281
61,622,451	New Orleans	LA	1,905,984	59,716,467

Note: Imports, exports, and totals are measured in metric tonnages.

Agricultural products both arrive at and depart from the U.S. among such ports. Gulf Coast ports are integral resources for distributing materials via the Mississippi River (USDA, 2013). Thus, their functioning has the potential of impacting not only local and regional economies, but also the national economy. Disasters that eliminate the functioning of an economic component also have the potential of affecting the national economy and impacting homeland security considerations (Doss, et al., 2016). Calamities that impact the Gulf Coast region must be considered seriously as incidents whose potential may affect economic

performance through time. Given such notions, this study investigated differences regarding Gulf Coast agricultural port activities before and after the 2005 Hurricane Katrina.

## RELEVANT LITERATURE

Hurricanes represent an expected danger that may affect society adversely (McElreath, et al., 2014a; McElreath, et al., 2014b). A notable calamity that affected the Gulf Coast region was the 2005 Hurricane Katrina. Warnings regarding Katrina were disseminated within the general public before the cataclysm (Doss, Glover, Goza, & Wigginton, 2015). Hurricane Gustav was the first major hurricane since Hurricane Katrina (Zmud, Lee-Gosselin, Munizaga, & Carrasco, 2013). Some estimates indicate that Hurricane Gustav resulted in approximately \$15 billion in property damages, and approximately \$5 billion in economic activity losses (Heislout, Bain, Jacobs, & Comfort, 2012; Rana, 2009). Hurricane Katrina remains the costliest hurricane in American history (Doss, Sumrall, McElreath, & Jones, 2013).

## RESEARCH QUESTION AND HYPOTHESIS

The primary research question was stated as follows: is there a statistically significant difference between levels of U.S. Gulf vessel grain loading activity at Gulf Coast ports before Hurricane Katrina versus after Hurricane Katrina? Derived from this research question, the null hypothesis within this research study is given as follows:

*H1 This is no statistically significant difference between levels of in-port U.S. Gulf vessel loading activity at Gulf Coast ports before Hurricane Katrina versus after Hurricane Katrina.*

## METHODOLOGY

The methodology for this study involved the use of data obtained from the U.S. Department of Agriculture. The data set spanned a period of 21 years between the first quarter of 1995 and the first quarter of 2016. Data items represented the quantities of aggregated Gulf Coast in-port grain loading events that occurred weekly throughout the considered period. The data were separated into two separate groupings: a) data between 1995 and 2010 and b) data between 2010 and 2016. The demarcation point within the data set was Hurricane Katrina. These separate data groups, representing before and after perspectives of the cataclysm, were examined via hypothesis testing.

Data processing was accomplished via the two-tailed, one-way analysis of variance (ANOVA) to examine the differences between grain loads among U.S. Gulf of Mexico ports before and after Hurricane Katrina. The ANOVA paradigm was selected because it facilitates an examination of means among multiple data sets to investigate whether the presence of a statistically significant difference exists via testing means for equality (Cooper & Schindler, 2010). When testing hypothesis, the two-tailed method implies that a null hypothesis may be rejected upwardly or downwardly by considering deviation (Dytham, 2011).

The ANOVA paradigm is appropriate when one independent variable exists within a research endeavor (Coladarci, Cobb, Minium, & Clarke, 2011). Within this study, the independent variable represented load change whereas the dependent variable consisted of data preceding the event and data succeeding the event thereby representing two groupings of data. The means of the examined data sets were evaluated for equality via hypothesis testing. When performing hypothesis tests, the p-value approach represents a method of determining whether

the null hypothesis,  $H_0$ , may be rejected (Petrie & Watson, 2013). The p-value approach represented the hypothesis testing method for this study. The level of significance for performing the hypothesis test was 0.05.

Effect size reflects the variance proportion of the dependent variable that may be explainable by the attributes of the independent variable (Nolan & Heinzen, 2012). Essentially, an effect size indicates the largeness of effect regardless of the size of the sample (Doss, 2014). Within this study, the Omega-squared method was used to examine the characteristics of effect size regarding the hypothesis testing outcome.

Derivation of percent change shows the amount of change that occurred within a given variable (Wessels, 1997). Within this study, the value of percent change was calculated to examine quantitatively the amount of change that occurred regarding the periods before and after the flooding incident.

### FINDINGS

The following tables show descriptive characteristics for the evaluated data items.

<b>Period</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Variance</b>	<b>Median</b>	<b>Mode</b>
Cumulative	34.22	12.18	148.26	33	29
Before Event	32.54	10.56	111.52	32	32
After Event	35.88	15.20	230.93	29	27

Note. Demarcation point separating event data was April 20, 2010. Units of measurement represent weekly values of in-port events.

Using the p-value approach, hypothesis testing revealed a statistically significant outcome ( $p = 0.00005$ ) regarding the considered hypothesis. The significance level for hypothesis testing was 0.05 (i.e.,  $p < 0.05$ ). Thus, the null hypothesis,  $H_0$ , was rejected. It appears that a statistically significant difference exists between in-port levels of U.S. Gulf vessel loading activity at Gulf Coast ports before Hurricane Katrina versus after the incident.

Given the existence of a statistically significant difference, the hypothesis testing outcome may be considered with respect to effect size. Using the Omega-squared method, the effect size value was determined to be 0.0342. Barker, McCarthy, Jones, and Moran (2011) indicate that effect size values below 0.20 represent low, small effects regarding the interaction between the independent and dependent variables. Thus, given an effect size of 0.0342, little effect is suggested regarding the interaction between the independent and dependent variables examined within this study.

Percent change was considered regarding the periods before and after Hurricane Katrina. The percent change outcome value was determined to be 6.86%. This outcome suggests increases regarding the total loading activities occurring with respect to the periods before and after the 2005 hurricane, however at a diminished level than that which been trending prior to the disaster. The examined period ranges from ten years before the event to 11 years after the event.

### CONCLUSION

Given the findings of this study, a statistically significant outcome ( $p = 0.00005$ ;  $\alpha = 0.05$ ) exists regarding the grain loading activities before and after the incident. Examining the

loading levels preceding and succeeding the event indicated a percent change value of 6.86% thereby indicating diminished activity levels with respect to prior monthly trends. Of particular interest, a monthly percentage change analysis depicts the diminished activity levels immediately following the month of the disaster.

The negative effects of man-made disasters have affected the American economy multiple times. Despite the best efforts to achieve normalcy after an incident occurs, not all scenarios generate a full recovery. For instance, the city of Galveston, Texas never regained its economic status as a Gulf Coast port after experiencing a 1900 hurricane (McElreath, et al., 2016). Similarly, New Orleans did not fully reclaim its former glory following Hurricane Katrina (McElreath, et al., 2016). Over a decade after Hurricane Katrina, given the outcomes of this study, some arguments may be made that the affected in-port Gulf Coast grain loading activity has not fully recovered and achieved the level of normalcy that existed before the cataclysm.

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# ENHANCING THE COMPSTAT PARADIGM VIA AN EVALUATION APPROACH

**Daniel Adrian Doss, University of West Alabama**

**Russ Henley, University of West Alabama**

**David McElreath, University of Mississippi**

**Rebecca Goza, University of Central Oklahoma**

**Shimin Lin, University of West Alabama**

**Glenna Lusk, University of Mississippi**

## ABSTRACT

*Compstat demonstrates the capacity to facilitate the mechanics of change, among law enforcement organizations, that are commensurate with the strategic pursuits of the organization and the best interests of its stakeholders. Given this concept, this paper considers such value of Compstat within the context of its dynamic nature among law enforcement settings. Based on a brief examination of the literature, and the writings of Henry (2003, 2009), Compstat demonstrates the capacity of embellishing the robustness of managing law enforcement entities through its flexibility and ability to reflect and manifest organizational changes through time. However, the use of evaluation may enhance Compstat as a tool through which its tenets of continuous improvement may be manifested.*

## INTRODUCTION

The Compstat paradigm provides a basis for enhancing managerial aspects of law enforcement organizations (Doss, et al., 2016; McElreath, et al., 2013). Incorporating Compstat often necessitates the use of quantitative analysis, such as statistical methods whereby quality improvements may be generated among law enforcement organizations (Doss, Guo, & Lee, 2012). Compstat is similar to the concept of total quality management, and may be used to supplement quality initiatives among law enforcement entities (Doss, Guo, & Lee, 2012). Compstat is used among approximately 11.0% of smaller law enforcement entities (50 to 99 sworn personnel) and among approximately 32.6% of larger organizations (over 100 sworn personnel) (Doss, 2014).

## DISCUSSION

Henry (2009) provides a myriad of integrated concepts between the disciplines of management and criminal justice. The final chapters (five through seven) of *The Compstat Paradigm* provide a basis for understanding the organizational processes, procedures, and paradigms that affect modern law enforcement entities with respect to a dynamic perspective. A review of the final chapters demonstrates a common theme: change through time. This observation is salient because of its potential to impact the implementation and structuring of organizations that integrate Compstat among their managerial philosophies. Based on the writings of Gordon (1996), all organizations are affected by change regardless of their size or mission.

Gordon (1996) indicates that all organizations will experience change through time. According to Waldron, et. al., (2009), Henry (2009), Allen and Sawhney (2010), McElreath, et al., (2014), and Doss, et al., (2015), the maturation of policing and law enforcement organizations experienced significant changes through time, ranging from communications processes to management models. Such change is not uncommon among entities that integrate Compstat within their infrastructures (Henry, 2009). Based on the writings of Henry (2009), cultural, economic, political, and technological characteristics shall continue to affect organizational entities that implement the Compstat paradigm.

Based on the administrative and managerial characteristics of Compstat, the Compstat philosophy demonstrates the ability to adapt to such changes through time. A salient characteristic of Compstat is its tenet of continuous improvement among law enforcement entities (Henry, 2009).

The manifestation of the effects of change, among law enforcement settings that pursue continuous improvement initiatives, may be manifested through their statement of organizational policies. Based on the writings of Mark, Henry, and Julnes (2000), evaluation may be incorporated, among the organizational policies of public service and non-profit entities, as a tool through which such policies may be examined and altered through time. Welsh and Harris (1999) advocate evaluation as a tool through which organizational outcome planning is embellished. Therefore, given the collective arguments of the aforementioned authors, it is the opinion of this author that evaluation may be an effective tool through which organizational change is facilitated.

According to a dictionary definition (Evaluation, 2010), evaluation is a determination of “worth, or condition of, usually by careful appraisal and study.” According to Mark, Henry, and Julnes (2000, p. 3), evaluation embellishes organizational policy because it is a mechanism through which “systematic inquiry” occurs that “describes and explains the policies’ and programs’ operations, effects, justifications, and social implications.” With respect to the public service obligation and stakeholder service of law enforcement organizations, evaluation provides a mechanism through which such organizations may “better select, oversee, improve, and make sense of social programs and policies (Mark, Henry, & Julnes, 2000, p. 3).” Further, according to Mark, Henry, and Julnes (2000, p. 3), evaluation may occur at any time, and may “address any of a wide range of issues, including the needs of a potential program’s target population, the way a program is implemented, and a program’s effects.”

Given the definitions and arguments of Mark, Henry, and Julnes (2000), it is the opinion of this author that evaluation is a significant factor, regarding the consideration of change and continuous improvement initiatives, which may affect law enforcement organizations. Swanson, Territo, and Taylor (2008) describe a variety of changes and evaluation initiatives that impact law enforcement organizations. According to Swanson, Territo, and Taylor (2008, p. 42-47), evaluation was a component of the Chicago Alternative Policing Strategy (CAPS) through which the organization transitioned from a “reactive, incident-driven agency to a more proactive and community-oriented department.” Evaluation also is a component of personnel and human resources functions among law enforcement agencies (Swanson, Territo, and Taylor, 2008). Evaluation is useful among planning activities and reviews associated with the synoptic planning model because it considers the achieving of objectives and problem resolution (Swanson, Territo, and Taylor, 2008). Given the arguments of Swanson, Territo, and Taylor (2008) regarding evaluation, it is the opinion of this author that evaluation may provide significant benefit during periods of organizational change through time.

Swanson, Territo, and Taylor (2008) provide a consideration of the basic theme of Compstat with respect to its usefulness as an organizational tool that facilitates change among the organizational infrastructure, policies, and services of law enforcement entities. According to Swanson, Territo, and Taylor (2008, p. 39), the use of Compstat provides a mechanism through which the “needs of the community” are evaluated, and through which commensurate, “proactive strategies to stop or reduce crime” are crafted. Similar discussions are presented by Henry (2003) and Henry (2009) regarding the use of Compstat to alter and improve the organizational infrastructure, services, and accountability within the New York Police Department (NYPD). However, despite the discussions of Henry (2003), Henry (2009), and Swanson, Territo, and Taylor (2008) regarding the benefits and characteristics of Compstat, they neither question nor discuss the intricacies of evaluation regarding its functional contributions to social benefits among stakeholders, from a perspective of categorical purposes of betterment, which may be examined from its implementation among law enforcement entities. According to Mark, Henry, and Julnes (2000, p. 13), evaluation encompasses four primary categories that embellish organizational goals of social benefit: 1) assessment of merit and worth, 2) program and organizational improvement, 3) oversight and compliance, and 4) knowledge development. These categories provide a basis for both quantitative and qualitative evaluations to occur among organizational environments experiencing facets of change through time. The Compstat paradigm represents both quantitative and qualitative components that support change initiatives and continuous improvement activities among law enforcement environments. Quantitative metrics and statistical analysis comprise the numerical aspects of Compstat whereas management philosophy and accountability represent the qualitative aspects of Compstat (Henry, 2009). Similar discussions are given by Swanson, Territo, and Taylor (2008) regarding the quantitative and qualitative characteristics of Compstat.

Similarly, the quantitative and qualitative aspects of evaluation are given by Mark, Henry, and Julnes (2000). The quantitative aspects of evaluation may incorporate some numerical forms of causal analysis, and the qualitative aspects of evaluation may incorporate a myriad of value inquiries (Mark, Henry, & Julnes, 2000). Quantitative examples include hypothesis testing whereas qualitative examples may include “practical wisdom” and the interviewing of personnel (Mark, Henry, and Julnes, 2000). The arguments and discussions of Mark, Henry, and Julnes (2000), regarding the quantitative and qualitative attributes of evaluation, are commensurate with the discussions of Henry (2009) regarding the quantitative and qualitative compositions of the Compstat paradigm. Therefore, it is the opinion of this author that evaluation represents a viable tool, through which law enforcement organizations may satisfy the continuous improvement tenets of Compstat, which demonstrates beneficial contributions, from the perspective of organizational change, which provides social benefit and improvements among rendered public service.

However, based on the writings of Henry (2009), such change, within Compstat environments, may require significant time during a strategic period, may be contentious, and must require significant consideration via evaluation. Based on the writings of Henry (2009), instigating change, within the NYPD, demonstrated strategic value through which accountability and improved public service occurred; demonstrated the natural characteristics of human resistance to change; and involved the use of both quantitative metrics and qualitative management philosophy. Throughout this period of change within the NYPD, the relevance of the categorical dimensions of evaluation was demonstrated, that represented the categories

described within the writings of Mark, Henry, and Julnes (2000), regarding their use during periods of organizational change.

The case of NYPD, as discussed by Henry (2009), is commensurate with the categories of 1) assessment of merit and worth, 2) program and organizational improvement, 3) oversight and compliance, and 4) knowledge development. According to Henry (2003), with respect to the case of the NYPD, the use of re-engineering facilitated a variety of change outcomes, strategically, during phases of Compstat. The re-engineering initiative “streamlined or eliminated a host of administrative activities that unnecessarily consumed time and other vital resources that could have been better applied toward achieving the agency’s primary mission, and it refocused members’ attention on the agency’s most important goals and objectives (Henry, 2003, p. 224).” Various forms of assessment, within the re-engineering initiative, facilitated change, within the NYPD, through activities of organizational “re-design” and performance improvements (Henry, 2003, p. 205). The re-engineering activities incited change among the reward systems implemented within the personnel infrastructure of the NYPD (Henry, 2003). Change within the NYPD was also manifested through the instantiation of accountability, discipline, and integrity among administrative and managerial ranks of the department (Henry, 2003). Knowledge management activities improved training opportunities and regimens among supervisory and non-supervisory NYPD personnel (Henry, 2003).

Although many more examples may be cited within the writings of Henry (2003) and Henry (2009), these events satisfy the requirements of evaluation, from the perspectives of categorical purposes of betterment described within the writings of Mark, Henry, and Julnes (2000). The NYPD change emphasis, regarding organizational performance, satisfies the requirements of the first category of assessment of merit and worth because it implemented evaluation to assess the values (both tangible and intangible) of contributions among a variety of processes and procedures. The NYPD changes associated with reward systems satisfies the requirements of the second category of program and organizational improvement because they involved a restructuring of the motivational characteristics that influenced the performance of both the organization and its personnel. The NYPD change activities of instantiating accountability, discipline, and integrity satisfied the requirements of the third categorical requirement of evaluation because they provided an improved capacity of command and control within the organizational hierarchy. The NYPD change initiatives, associated with the functions of knowledge management and training, satisfied the requirements of the fourth category because they disseminated new knowledge among the ranks of organizational personnel.

The NYPD case presents some interesting observations regarding the integration of evaluation among Compstat initiatives. Because of the supplemented change efforts among organizational structures of the NYPD, it is the opinion of this author that evaluation contributes toward the optimization of entities with respect to both quantitative and qualitative improvements. This pursuit of improvement, via evaluation, satisfies the Compstat tenets of continuous improvement and organizational optimization. Therefore, because evaluation is a tool through which efficiency and effectiveness improvements may be manifested, it is the opinion of this author that evaluation, within the scope and context of Compstat, enhances the ability of law enforcement organizations to satisfy the requirements of their missions and their abilities to render public services.

## CONCLUSIONS

Swanson, Territo, and Taylor (2008, p. 40), regarding the case of the NYPD, indicate that Compstat emphasizes leveraging the “most accurate and timely information available to the police,” facilitates efficient communications within the hierarchical chain of command and among the components of the enterprise organization, stakeholder integration regarding the community served, and “improving the overall efficiency and effectiveness of the police.” Based on the writings of Henry (2003) and Henry (2009) and Swanson, Territo, and Taylor (2008), it is the conclusion of this author that significant, beneficial changes occurred within the NYPD. It is the conclusion of this author that these changes did not occur without much contemplation, both quantitatively and qualitatively, but occurred through various forms of evaluation that supplemented change activities. Given the writings of Mark, Henry, and Julnes (2000), regarding evaluation as a mechanism to embellish organizational change among non-profit and public service entities, it is the opinion of this author that evaluation is a viable tool through which the Compstat paradigm may be implemented and deployed among law enforcement entities.

The ability and performance of law enforcement organizations, with respect to the fulfillment of mission and public service, must neither be understated nor diminished. The necessity of efficient, effective operations, among law enforcement entities, embellishes their capacity to satisfy stakeholder interests within the fulfillment of mission and the rendering of public service. However, according to the writings of Mark, Henry, and Julnes (2000), the obtaining and maintaining of such organizational performance must be accomplished through consistent and periodic evaluation as a method of enhancing continuous organizational improvement. Continuous improvement is a tenet of Compstat (Henry, 2003; Henry, 2009).

Therefore, through the use of categorical evaluation, in accordance with the specifications given by Mark, Henry, and Julnes (2000), as a contributing agent of change to facilitate continuous improvement efforts, the continuous improvement tenets of Compstat may be satisfied. Hence, it is recommended that categorical evaluation methods, per the descriptions of Mark, Henry, and Julnes (2000), be integrated among the continuous improvement efforts and organizational infrastructures of law enforcement agencies implementing the Compstat paradigm.

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# **THE GOMS PARADIGM AND PUBLIC SAFETY MANAGEMENT EDUCATION**

**Daniel Adrian Doss, University of West Alabama**

**Russ Henley, University of West Alabama**

**David McElreath, University of Mississippi**

**Rebecca Goza, University of Central Oklahoma**

**Shimin Lin, University of West Alabama**

**Glenna Lusk, University of Mississippi**

## **ABSTRACT**

*This paper proposes the use of the goals, operators, methods, and selection (GOMS) model from the perspective of public safety education involving fire science and emergency services courses. Specifically, GOMS is a paradigm that may serve useful as an evaluation tool for such class environments. For instance, it may be used to evaluate performance among a variety of skills areas within virtual settings. It may also be useful as a resource for embellishing program evaluation initiatives.*

## **INTRODUCTION**

The GOMS model was originally proposed by Stu Card, Tom Moran, and Al Newell as a method of “modeling cognition in complex tasks” (Cooke & Durso, 2008, p. 45). Goals represent the desired accomplishment that is to be achieved. Operators are the “basic perceptual, cognitive, or motor actions used to accomplish goals,” and represent the actions necessary for exercising a method (GOMS Model, n.d.). Methods are the procedures for “accomplishing a goal (Cooke & Durso, 2008, p. 45).” Selection rules are the control structures necessary for selecting “among alternative methods for doing the task to reach the goal (Cooke & Durso, 2008, p. 45).” This notion is analogous with the act of rendering a human decision. Much of the literature regarding the GOMS model is present within the domains of computer science, information systems, human-computer interaction, cognitive science, and engineering. The GOMS model represents a tool through which evaluation may be implemented. It is useful for evaluation purposes within the context of “process control (Skjerve & Bye, 2011, p. 148).” The GOMS model has long been a useful tool regarding human-computer interface evaluation (Zaphiris & Kurniawan, 2007). Few literature references are available within the context of education. However, some considerations of the GOMS model do involve educational perspectives.

The GOMS model has been explored from the perspective of educational multimedia and learning involving AlgoNet (Shikano, Recker, & Ram, 1998). In this instance, GOMS represented a descriptive asset regarding the required knowledge that was necessary for interacting with the learning system (Shikano, Recker, & Ram, 1998). Doss and Sullivan (2006) considered the GOMS model from the perspective of Bloom’s taxonomy. In this instance, the GOMS model was considered from the perspective of mapping its categories to the stages within Bloom’s taxonomy (Doss & Sullivan, 2006). The GOMS model may also be used to analyze “skilled-performance times, learning times, and error rates” thereby influencing the crafting of “specific teaching materials (IRMA, 2011, p. 1880).” Given the lack of materials regarding an

educational perspective of GOMS within contemporary literature, this paper attempts to provide a perspective of the GOMS model within the context of public safety education. Modern educational environments involve new cultures for both faculty and students. Public service personnel require flexible modalities that accommodate myriads of work schedules and geographic distances. Through a consideration of GOMS, this paper provides a commentary regarding the educational attributes of learning environments involving public service personnel.

### **RELEVANT LITERATURE**

Public safety personnel perform public services based upon a willingness to serve others, a desire render beneficial service for the betterment of their communities, and because they view their occupation as a calling (McElreath, et. al., 2013). During the course of employment, they must work with others and demonstrate the ability to work both independently and as the members of teams (McElreath, et. al., 2013). Bonding and a sense of familiarity often occur among such teams (McElreath, et. al., 2013). Public service personnel must also approach their occupation with an attitude of seriousness because any mistake during a service call may result in the loss of human life (McElreath, et. al., 2013). Many of these personnel expend a good portion of their lifetime in public service, and are lured into administrative and management positions through experience, promotion, and time. Advancing into higher ranks and positions of authority necessitates a variety of educational experiences ranging from advanced certification courses to earning college degrees. Therefore, various outcomes associated with goals and objectives are present during the course of a career in public service.

Public service personnel pursuing higher education represent a myriad of demographics and unique needs. Because they may work rotating shifts or be unable to forego employment to pursue higher education, flexibility and availability of learning resources are necessities for these personnel to experience classes. Other commitments, such as familial obligations or required periods of training, often impact the ability of public service personnel to pursue higher education. Additionally, these personnel must serve when duty calls – burning buildings, roadway accidents, inclement weather, and other emergencies often necessitate their absences from physical classrooms without warning. Given the advent and proliferation of modern technologies, educational opportunities are improving for public service personnel to pursue higher education that is commensurate with their vocational and professional goals and objectives. Gone are the days of physical classrooms and tedious lectures as the sole modality of learning. Instead, contemporary teaching and learning occur through a variety of means ranging from purely virtual environments to hybrid courses. Further, the modern generation of learners is much more comfortable in the use of information technology that was its predecessors (Conrad, 2008).

These observations further highlight the notion of a new learning culture. This culture is emphasized by the characteristics of an emerging mindset among learning environments. According to Conrad (2008), this change is highlighted by design involving “projected behavioral outcomes,” personalization of the learning experience, fostering a sense of “community,” group activities and sharing of concepts, and ascribing some form of personal meaning within the learning experience. Therefore, educational environments may be adapted to accommodate these attributes during the learning experience. These notions are important within the context of educating public service personnel. The team-based mentality of public servants is commensurate with the team-based activities advocated by Conrad (2008). Other commensurate attributes include the motivational attributes of the individual, familiarity with others and a sense

of community, ascribing some facets of personalization and meaning to a learning experience, and outcomes associated with goals and objectives.

This intersecting commonness may be considered from the GOMS perspective. Goals exist within the classroom just as they do during the course of a career. Operators (i.e., cognitive factors) are essential within any learning experience. Learning and accomplishing objectives may occur through various modalities and activities (i.e., methods). Decisions regarding the ways of achieving of goals are concurrent, though may be varied, within the learning environment. Contemplating these notions yields a dichotomy regarding the learning experience. Specifically, the learning experience may be viewed from the perspective of the learner and from the perspective of the educational provider. This duality intersects through a consideration of GOMS.

From the perspective of the educational provider, goals may range from desired course learning objectives to whether candidates for graduation exhibit a desired level of knowledge and proficiency. Operators, representing the cognitive aspects of the learning experience, may represent various levels of programmatic or course difficulties through which weaker learners may be excluded through attrition. Methods may range from whether the modality of a learning experience is virtual to whether the examinations that are conducted during a learning experience are proctored. Selection may also vary and accommodate a plethora of considerations. For instance, an educational provider may decide whether to award academic credit for state-awarded certifications or decide to offer courses online in an accelerated format.

From the perspective of the learner, GOMS is also an important aspect of the learning experience. Goals may include whether a learner seeks only to merely pass a class or to make an unequivocal effort towards earning the highest grade possible. Operators may include the repetitious reviewing of course materials before an examination or participating during team discussions. Methods may include registering for an online course or reserving times for study. Selection may include whether to complete a management course or to pursue a degree program.

Another consideration of this GOMS paradigm involves the mutual benefit of educational institutions that seek to offer opportunities for public service personnel and the public servants. This intersecting educational perspective may involve a goal of the educational provider offering a course or degree program that is accessible and accomplishable by public service personnel. An operator may be the offering of self-assessment opportunities, by the educational provider, that may be completed by the public service learner before an examination occurs. A method may involve the educational institution providing online registration and examinations that are accessible by public service learners 24 hours per day. Selection may involve cooperation between the educational institution and public service learner when choosing which courses or degree programs are appropriate via consultation with academic and enrollment advisors.

Many other variations of the GOMS model may be imagined within the domain of public service management education. For instance, it may be exercised as a framework for evaluation and assessment. Regardless of the application imagined, GOMS represents a model through which the emerging learning culture may be embellished. Through the use of GOMS, both educational institutions and public service learners may better identify and establish mutual goals, cognitive expectations and performance outcomes, various methods of achieving goals, and choices that lead to the completing of goals both operationally and strategically.

Numerous regionally accredited colleges and universities now offer academic courses and programs that are especially targeted towards public service personnel. Many of these also have programmatic accreditation (e.g., ACBSP). These programs are often designed to

accommodate the unique needs of public servants (e.g., flexible schedules, hybrid and online offerings, awarding academic credit for certification, etc.). Popular examples include the public safety degrees and certificates offered by the University of Maryland (Adelphi); the Master of Public Service Leadership offered by Thomas Edison State College; the undergraduate healthcare administration degrees of Charter Oak State College; and the doctoral programs of Northcentral University.

The GOMS model may be applied to any of these academic entities. For instance, regarding the doctoral program at Northcentral University, a goal is to produce candidates that are capable of applying “effective research methods and strategies to develop and defend a dissertation that adds to current business theory (NCU, 2013).” Within this program, an operator is exhibited as assessment through which an evaluation of “individual competencies” occurs (NCU, 2013a). The method of accomplishing the goal is commensurate with the modality of learning that is exercised among European, British, and South African institutions. Specifically, it involves a mentored approach in which learners are paired directly with doctoral faculty to exhibit a 1:1 student-faculty ratio during the entirety of the learning experience (NCU, 2013b). Selection involves choosing the tasking requirements that are necessary for achieving the intended goals – comprehensive exams, dissertation requirements, course offerings and sequences, and so forth (NCU, 2013c).

The GOMS model may be considered from the perspective of the academic offerings of the Thomas Edison State College. A goal is to contribute toward producing “the next generation of leaders for nonprofit organizations, faith-based and community-based organizations and local, state and federal government (TESC, 2013).” An operator involves challenge exams that may be conducted to determine whether a sufficient “subject mastery” exists to justify the awarding of credit based upon experiential knowledge (TESC, 2013a). Methods are exhibited through awarding credit for “one of more than 60 licenses and certifications in a wide range of fields, from aviation and healthcare to law enforcement and business (TESC, 2013b).” The selecting of tasks involves the delineating of required courses, “public service electives,” and capstone courses that are necessary for achieving the desired degree goal (TESC, 2013c).

## **CLOSING COMMENTS**

Many other institutions offer similar programs to entice public servants. Regardless of the institution, such programs are opportunities for aligning the mutual GOMS considerations of both higher education entities and learners in the public service domain. Public servants often view their careers as callings instead of merely vocations and occupations, and risk their lives and sacrifice holidays and personal events (e.g., birthdays, weddings, etc.) to ensure the safety of others. Their work shifts and requirements may be long, and they may have nothing more than the luminescence of a streetlight when studying. Their duties may interrupt a variety of endeavors necessitating few or many hours of service. Regardless, the pursuit of higher education is encouraged among many public service organizations. Servicing the higher education needs of such individuals is commensurate with the notions delineated by Conrad (2008) regarding the new learning culture. Through a consideration of the primary GOMS concepts, educational institutions may craft both courses and programs that are amenable to learners in the public service sector. Certainly, through GOMS, considerations of the course, the program, and the public safety management learner must be integrated within the crafted educational experience. Thus, the GOMS framework may be applied in a variety of different fashions.

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# EXAMINING THE U.S. GULF COAST IN-PORT GRAIN LOADING LEVELS BEFORE AND AFTER HURRICANE GUSTAV

**Daniel Adrian Doss, University of West Alabama**  
**David McElreath, University of Mississippi**  
**Russ Henley, University of West Alabama**  
**Rebecca Goza, University of Central Oklahoma**  
**Glenna Lusk, University of Mississippi**  
**Shimin Lin, University of West Alabama**

## ABSTRACT

*During 2008, Hurricane Gustav ravaged areas along the Gulf Coast. Despite its devastation, economic activity emerged succeeding the event. No guarantee exists that locations will recover completely and achieves the same level of normalcy that existed before disasters occur. Given these notions, this study briefly examines the in-port grain loading activities and levels among Gulf Coast ports before and after Hurricane Gustav. The outcome of the study showed a statistically significant difference between the examined periods.*

## INTRODUCTION

Sea ports along the Gulf of Mexico process a variety of international agricultural maritime shipments. Based on U.S. Department of Agriculture data, annually processed agricultural tonnages for the top five Gulf Coast ports are presented within the following table (USDA, 2013):

<b>Table 1</b>				
<b>GULF COAST PORT TONNAGES</b>				
<b>Total Tonnages</b>	<b>Port</b>	<b>State</b>	<b>Imports</b>	<b>Exports</b>
1,705,432	Beaumont	TX	47,078	1,658,354
3,642,166	Galveston	TX	298,841	3,343,325
4,107,913	Corpus Christi	TX	39,385	4,068,528
9,221,729	Houston	TX	1,796,448	7,425,281
61,622,451	New Orleans	LA	1,905,984	59,716,467

Note: Imports, exports, and totals are measured in metric tonnages.

Agricultural products both arrive at and depart from the U.S. among such ports. Gulf Coast ports are integral resources for distributing materials via the Mississippi River (USDA, 2013). Thus, their functioning has the potential of impacting not only local and regional economies, but also the national economy. Disasters that eliminate or impair the functioning of an economic component also have the potential of affecting the national economy and impacting homeland security considerations (Doss, et al., 2016). Calamities that impact the Gulf Coast region must be considered seriously as incidents whose potential may affect economic

performance through time. Given such notions, this study investigated differences regarding Gulf Coast agricultural port activities before and after the 2008 Hurricane Gustav.

## RELEVANT LITERATURE

Hurricanes represent an expected danger that may affect society adversely (McElreath, et al., 2014a; McElreath, et al., 2014b). A notable calamity that affected the Gulf Coast region was the 2008 Hurricane Gustav. Warnings regarding Gustav were disseminated within the general public before the cataclysm (Doss, Glover, Goza, & Wigginton, 2015). Hurricane Gustav was the first major hurricane since Hurricane Katrina (Zmud, Lee-Gosselin, Munizaga, & Carrasco, 2013). Some estimates indicate that Hurricane Gustav resulted in approximately \$15 billion in property damages, and approximately \$5 billion in economic activity losses (Heislout, Bain, Jacobs, & Comfort, 2012; Rana, 2009). Despite the devastation wrought by Gustav, Hurricane Katrina remains the costliest hurricane in American history (Doss, Sumrall, McElreath, & Jones, 2013).

## RESEARCH QUESTION AND HYPOTHESIS

The primary research question was stated as follows: is there a statistically significant difference between levels of U.S. Gulf vessel grain loading activity at Gulf Coast ports before Hurricane Gustav versus after Hurricane Gustav? Derived from this research question, the null hypothesis within this research study is given as follows:

*H1 This is no statistically significant difference between levels of in-port U.S. Gulf vessel loading activity at Gulf Coast ports before Hurricane Gustav versus after Hurricane Gustav.*

## METHODOLOGY

The methodology for this study involved the use of data obtained from the U.S. Department of Agriculture. The data set spanned a period of 21 years between the first quarter of 1995 and the first quarter of 2016. Data items represented the quantities of aggregated Gulf Coast in-port grain loading events that occurred weekly throughout the considered period. The data were separated into two separate groupings: a) data between 1995 and 2010 and b) data between 2010 and 2016. The demarcation point within the data set was Hurricane Gustav. These separate data groups, representing before and after perspectives of the cataclysm, were examined via hypothesis testing.

Data processing was accomplished via the two-tailed, one-way analysis of variance (ANOVA) to examine the differences between grain loads among U.S. Gulf of Mexico ports before and after Hurricane Gustav. The ANOVA paradigm was selected because it facilitates an examination of means among multiple data sets to investigate whether the presence of a statistically significant difference exists via testing means for equality (Cooper & Schindler, 2010). When testing hypothesis, the two-tailed method implies that a null hypothesis may be rejected upwardly or downwardly by considering deviation (Dytham, 2011).

The ANOVA paradigm is appropriate when one independent variable exists within a research endeavor (Coladarci, Cobb, Minium, & Clarke, 2011). Within this study, the independent variable represented load change whereas the dependent variable consisted of data preceding the event and data succeeding the event thereby representing two groupings of data. The means of the examined data sets were evaluated for equality via hypothesis testing. When

performing hypothesis tests, the p-value approach represents a method of determining whether the null hypothesis,  $H_0$ , may be rejected (Petrie & Watson, 2013). The p-value approach represented the hypothesis testing method for this study. The level of significance for performing the hypothesis test was 0.05.

Effect size reflects the variance proportion of the dependent variable that may be explainable by the attributes of the independent variable (Nolan & Heinzen, 2012). Essentially, an effect size indicates the largeness of effect regardless of the size of the sample (Doss, 2014). Within this study, the Omega-squared method was used to examine the characteristics of effect size regarding the hypothesis testing outcome.

Derivation of percent change shows the amount of change that occurred within a given variable (Wessels, 1997). Within this study, the value of percent change was calculated to examine quantitatively the amount of change that occurred regarding the periods before and after the flooding incident.

### FINDINGS

The following tables show descriptive characteristics for the evaluated data items.

<b>Period</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Variance</b>	<b>Median</b>	<b>Mode</b>
Cumulative	34.22	12.18	148.26	33	29
Before Event	32.54	10.56	111.52	32	32
After Event	35.88	15.20	230.93	29	27

Note. Demarcation point separating event data was April 20, 2010. Units of measurement represent weekly values of in-port events.

Using the p-value approach, hypothesis testing revealed a statistically significant outcome ( $p = 0.00005$ ) regarding the considered hypothesis. The significance level for hypothesis testing was 0.05 (i.e.,  $p < 0.05$ ). Thus, the null hypothesis,  $H_0$ , was rejected. It appears that a statistically significant difference exists between in-port levels of U.S. Gulf vessel loading activity at Gulf Coast ports before Hurricane Gustav versus after the incident.

Given the existence of a statistically significant difference, the hypothesis testing outcome may be considered with respect to effect size. Using the Omega-squared method, the effect size value was determined to be 0.0342. Barker, McCarthy, Jones, and Moran (2011) indicate that effect size values below 0.20 represent low, small effects regarding the interaction between the independent and dependent variables. Thus, given an effect size of 0.0342, little effect is suggested regarding the interaction between the independent and dependent variables examined within this study.

Percent change was considered regarding the periods before and after Hurricane Gustav. The percent change outcome value was determined to be 14.42%. This outcome suggests increases regarding the total examined loading activities occurring with respect to the periods before and after Hurricane Gustav, however at a diminished level than that which had been trending prior to the disaster. The examined period ranges from 13 years before the event to eight years after the event.

## CONCLUSION

Given the findings of this study, a statistically significant outcome ( $p = 0.00005$ ;  $\alpha = 0.05$ ) exists regarding the grain loading activities before and after the incident. Examining the loading levels preceding and succeeding the event indicated a total percent change value of 14.42% thereby indicating diminished activity levels with respect to prior monthly trends. Of particular interest, a monthly percentage change analysis depicts the diminished activity levels immediately following the month of the disaster.

The negative effects of man-made disasters have affected the American economy multiple times. Despite the best efforts to achieve normalcy after an incident occurs, not all scenarios generate a full recovery. For instance, the city of Galveston, Texas never regained its economic status as a Gulf Coast port after experiencing a 1900 hurricane (McElreath, et al., 2016). Similarly, New Orleans did not fully reclaim its former glory following Hurricane Katrina (McElreath, et al., 2016). Eight years after Hurricane Gustav, given the outcomes of this study, some arguments may be made that the affected in-port Gulf Coast grain loading activity has not recovered and achieved the level of normalcy that existed before the cataclysm.

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# **HISTORICAL, ECONOMIC, AND HOMELAND SECURITY VIEWS OF THE U.S.-MEXICAN BORDER**

**Daniel Adrian Doss, University of West Alabama**

**David McElreath, University of Mississippi**

**Russ Henley, University of West Alabama**

**Rebecca Goza, University of Central Oklahoma**

**Glenna Lusk, University of Mississippi**

## **ABSTRACT**

*The U.S.-Mexican border may be viewed from a variety of different contexts. The significance of this discussion is observed through the notion that the border evolved from a state of openness, without substantial limitations regarding commerce and immigration, to the modern manifestation of the border that demonstrates both regulatory and national security concerns. An overview of both historical and modern perspectives of the U.S.-Mexican border is given herein.*

## **INTRODUCTION**

Borders are primary considerations of homeland security and emergency management because they involve aspects of national existence and function, ranging from the safeties of critical national infrastructures to the effects of economic security (McElreath, et al., 2014). During modern times, the U.S.-Mexican border attracts national interest for a variety of reasons, ranging from illegal immigration to the terrorism associated with drug wars. Given the spotlight given to the U.S.-Mexican border, this paper provides a brief historical overview and commentary regarding its emergence and maturation through time.

## **DISCUSSION**

An initial, early border perspective, between 1848 and 1910, represented a “frontier era” because it encompassed openness with respect to an absence of regulation concerning travel and the passage of goods and services across the U.S./Mexican border (Payan, 2006b, p. 6). This period shaped civic duties and citizenships without constraining access along the U.S./Mexican border. It culminated with the inception of head taxation, tests of literacy, some regulatory influences along official U.S. entry points (without regard for the remainder of the border), and ethnic influences (i.e., significant Chinese influence). These events affected economic factors that spawned the growth of population centers, increased communications and commerce, furthered railroad systems, and exhibited initial immigration concerns (Payan, 2006b). Ryo (2006) corroborates these notions with respect to the Asian defiance of Chinese exclusion laws. Chinese migrants constituted the first illegal immigration along the U.S./Mexican border because Mexican crossings of the border were not considered illegal activities (Ryo, 2006). Early illegal immigration activities presented questions of national sovereignty, and were influenced by the economic conditions of the period (Ryo, 2006). Lee (2002, p. 55) corroborates these notions, and indicates that the U.S./Mexican border contested “illegal immigration, race, citizenship, immigration policy, and international relations.” Immigration and border commerce were

primarily unregulated during this period. The beginnings of regulatory policies originated through concerns involving Asian immigration coupled with economic growth. It was this first era in which the U.S. began to establish its national identity and policies (ethnically, socially, economically, and culturally) along its border with Mexico (Lee, 2002; Ryo, 2006; White, 2007). As a result, this first era is characterized by change – a loss of innocence – concerning the U.S./Mexican interests along the border.

The second border era represented a customs perspective. It was characterized by three salient events: the Mexican Revolution, Prohibition, and World War I. This period heightened national sensitivities regarding border trade and defense issues. Heightened national sensitivity further identified and defined U.S. border policies, and began the stages of maturation that culminated in the manifestation of contemporary border perspectives (Payan, 2006b).

The Mexican Revolution caused an initial U.S. militarization of the border (Payan, 2006b). Overall immigration diminished during this period, but immigration into the U.S. occurred primarily from members of the Mexican aristocracy in conjunction with common war refugees (Payan, 2006b). Regardless of socioeconomic status, this conflict generated an exodus of war refugees into the U.S. The economic ramifications of the Mexican Revolution contributed positively toward U.S. interests because of the infusion of capital and resources into the economy, and impacted Mexico negatively because of such economic losses. As a result, the U.S. gained an improved potential of expanding its infrastructure along the border whereas Mexican capacity was diminished. Both the Mexican Revolution and World War I necessitated border militarization as a component of national defense, and necessitated Army forts along the U.S./Mexican border. The period witnessed some antagonistic Mexican sentiments, with respect to the Wilson policies, that were perceived as Imperialism (McKillen, 2001). Tensions along the U.S./Mexican border also were exacerbated because of the Zimmerman Telegram, of German origin, that proposed a wartime alliance between Mexico and Germany against the U.S. (Hatch, 2007).

The U.S. prohibition of alcohol impacted the U.S./Mexican border during this period. Both U.S. and Mexican histories demonstrate the characteristics of legal and illegal economic supply and demand between the two nations. Alcohol was smuggled across the border during U.S. prohibition, and smuggling of various items continues during modern times (Gilbert, 2007; O'Neil, 2009). The period of U.S. prohibition of alcohol was a significant period during which the black market characteristics of the U.S./Mexican border were fashioned (Doss, Jones, & Sumrall, 2010).

The second era of border development also represented increased regulation and varying animosities between the U.S. and Mexico. Wartime factors necessitated the restriction of people and the regulation of economic activity along the border, and contributed toward furthering and enhancing the national divergences between the U.S. and Mexico (McKillen, 2001). Following the U.S. national loss of innocence, this period represented a maturation of national awareness which uniquely defined baseline U.S. sovereignty, economic philosophies, territory, and national policies that affected the crafting of the U.S. relationship with Mexico and border areas.

The third period represented law enforcement perspectives. Facets of U.S. conservatism, arising during the 1980s, and Mexican immigration, during the 1960s and 1970s, were contributing factors that further affected border issues. Feliciano (2008) considers social networks to be facilitative tools through which immigration into the U.S. was primarily accomplished. With respect to the potentials of criminal activities, this period manifested a further separation of Mexican versus U.S. interests. Tensions along the border were varied

during this period. An example is the smuggling of illegal narcotics. Payan (2006a) considers the transference of illegal narcotics as an example of such varied tensions. For instance, during an exchange of weapons fire associated with the Operation Intercept of 1969, the “border was shut down unilaterally by the U.S. government on that day, deeply affecting the lives and the economy of border residents (Payan, 2006a, p. 863).” Payan (2006a) indicates that this event instigated the development of drug cartels along the U.S.-Mexican border, contributed toward the crafting of U.S. illegal drug policies, and was significant because it represented the beginning of the U.S. Drug War. Although this event occurred during the Nixon administration, criminal activities (e.g., cartel activities; smuggling; etc.) continued throughout the next decades, and continue during modern times.

Gilbert (2007) provides commentaries regarding criminality. Given the implementation of the North American Free Trade Agreement (NAFTA) and the Security and Prosperity Partnership (SPP) of North America, coupled with economic and market integration among nations, Gilbert (2007) advocates improvements in both physical infrastructures and human capital as methods of reducing criminal activities that impact immigration and border characteristics. Through such methods, Gilbert (2007, p. 93) suggests that both internal and external borders shall emerge among the nations of Canada, the U.S., and Mexico, and that such borders may impact “mobility rights,” border security, and the legitimacy of border travel. This proposed integration would deemphasize the traditional concept of the U.S.-Mexican border, and would present a trilateral border system through which only approved (i.e., “legitimate”) crossings would occur.

The U.S.-Mexican border has a history of criminal activities versus law enforcement operations. According to O’Neil (2009), the previous two centuries witnessed the illegal characteristics of black market economics with respect to supply (originating from Mexico) and demand (satisfied within the U.S.). Heroin and marijuana were initial products among these activities, and the 1920s witnessed the border smuggling of alcohol during U.S. prohibition (O’Neil, 2009). The periods between the 1960s and the 1970s manifested a significant increase in marijuana trafficking whereas the period between the 1970s and the 1980s manifested a significant increase in cocaine trafficking among cartels (O’Neil, 2009). The 1990s and modern periods manifested greater trafficking of cocaine, and smuggling now comprises 90% of cocaine smuggling into the continental U.S. (O’Neil, 2009). Given the advent and proliferation of the Internet Age, the U.S.-Mexican border necessitates considerations of virtual criminality. Incidents of virtual crime transcend the U.S.-Mexican border wherein criminality affects both nations and their residents. Motivations for committing virtual crime are mimicked within virtual environments to facilitate criminality among online and physical domains (Doss, Henley, & McElreath, 2013a; Doss, Henley, & McElreath, 2013b).

Instead of concentrating efforts toward law enforcement along the border, O’Neil (2009) advocates less emphasis concerning activities along the border itself, and advocates a strengthened U.S. support of democracy within the overall Mexican government. Through such support, O’Neil (2009) hypothesizes that such criminal aspects of the border may be diminished. Border violence and crime shall not cease, but may be controlled, with some variability, through legislation and law enforcement activities Payan (2006a, 2006b). However, based on the cumulative arguments of Payan (2006a, 2006b), Gilbert (2007), and O’Neil (2009), the law enforcement perspective of the border represents the fruition of the maturations and divergences of the U.S. and Mexico as separate nations, but with various dependencies (e.g., economic characteristics of supply and demand). Given the aforementioned discussions, coupled with

considerations of the histories of each border, three themes emerge and culminate, within this era of border development, regarding the legal and illegal aspects of the border: immigration, black markets, and regulatory matters.

The first theme encompasses the economic characteristics of immigration, both legal and illegal, concerning the entrance of individuals into the U.S. for the purposes of labor and lifestyle. The second theme encompasses illegal activities of black market economics that developed along the border. The third theme is a dichotomy of regulation and control which was manifested through the divergence of national policies, regulations, and politics between the U.S. and Mexico. It is also manifested through the physical expressions of violence and patterns of migration that embody the converging intersection of conflicting national philosophies – specifically, the U.S.-Mexican border. Therefore, such themes involve the perspectives of law enforcement, regulation, and control regardless of the identities of the U.S. presidential administrations during this period.

The fourth border era represents national security. Payan (2006b) indicates that this period originated with the attacks, upon the U.S., that occurred during September 11, 2001, and resulted in a temporary closure of the border between the U.S. and Mexico. This era is representative of further divergence and change concerning the national policies and philosophies between the U.S. and Mexico. However, although September 11, 2001 defined and solidified the existence of the national security border perspective, U.S. national security was a concern before this date. From the perspective of national security, with respect to national policies and national sovereignty, Edwards (2009) indicates that U.S. direction and foreign policy were strongly influenced by the philosophies of President Truman, and that these philosophies impacted the Reagan, Bush, and Clinton administrations. The Reagan administration was significantly concerned with the potential expansion, northward, of communism within Central America (Edwards, 2009). The Clinton administration espoused the philosophies of Truman with respect to the foundations of globalism and the economic integration of nations (Edwards, 2009). Globalism, trade, border security, and issues of democracy were of concern to the Bush administration (McElreath, et al., 2014).

Many U.S./Mexican border characteristics were of concern to historical presidencies. The Reagan administration acknowledged the dangers of communism within the hemisphere and Central America, and its potential of pervading the Mexican political environments. The Clinton administration could not ignore the national security issues associated with globalism (e.g., foreign products, people, and conveyances entering the U.S.). After the events of September 11, 2001, the Bush administration certainly could not ignore the potential of border security, with respect to possible incidents of terrorism, because of the concerns and dangers posed by foreign products, people, and conveyances entering the U.S. Modern administrations must acknowledge many border issues that will affect the current and future generations, ranging from human trafficking to terrorism. Wigginton, et al. (2015), highlight the notion that foreign terrorists may gain footholds in South America from which they may attempt to endanger the U.S. Modern petroleum market transactions provide a basis for smuggling financial resources between the U.S. and Mexico (Doss, Sumrall, McElreath, & Jones, 2014). Given such thoughts, the national security border perspective represents change because the perceptions of border security shifted from a paradigm of regulation and enforcement operations to heightened perceptions and paradigms of U.S. national security associated with the safety, security, and defense of the nation.

## CONCLUSIONS

White (2007, p. 273) observes changes regarding the general, historical characteristics of the U.S./Mexican border and foreign policies, and indicates that the border has changed from demonstrating an “open door policy to a complex set of restrictions and rules governing who may and may not enter.” Border periods and events were symbolic and representative of both consistency and change. With respect to purely an economic consideration of resource allocation, the static considerations supplying the market wants and needs of humans will always affect the border regardless of the national paradigms and philosophies governmentally. In this case, economic consistency occurs via legal and illegal markets.

Change unceasingly affects the U.S.-Mexican border through time. Perceptions of border relationships have developed and matured through time, ranged from an initial state of openness and freedom to a paradigm that necessitates control, regulation, and enforcement, and now impact the national security of the U.S. Economically, based upon the reviewed literature, change is seen with respect to the types of goods, resources, and services, both legal and illegal. Thus, the dichotomy remains between constancy and change. Political philosophies and policies may continue to separate U.S. and Mexican interests. However, the convergence of the effects of these national paradigms is expressed through the actions, activities, and relationships manifested along the U.S./Mexican border. The attributes of human nature and economics along the border shall never change because the laws of supply and demand remain intact for both legal and illegal products, goods, and services. Regardless, change will always be manifested through technologies, political philosophies, and national paradigms.

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# **STRATEGIC CUSTOMER SERVICE, CULTURAL DIFFERENCES, & THE BIG 5 IN CANADA, CHINA, SWITZERLAND, TAIWAN, AND THE UNITED STATES**

**Mikayla J Garvey, University of Texas at Dallas**  
**Brandt Momsen, University of Texas at Dallas**  
**Hannah Steinberg, University of Georgia**

## **ABSTRACT**

*Using the 6 Dimensional personality test, we can compare and contrast what makes certain countries successful in terms of customer service, and what can make others unsuccessful. Customer service boils down to how respectful someone in power can relate to someone that is using his/her product/service. This includes simple "please" and "thank you's", all the way to things like looks or tone of voice. Respect and personality can be categorized by Hofstede's 6-D model. Power distance is the dimension to which the less powerful individuals in a society expect that power unequally distributed. This concept can be applied in customer service by how a certain country with a low power distance will treat their "less powerful" customers. Hopefully it's all with the same respect that they would give someone of higher rank or class. In this case the United States have a very low power distance, and thus has a reputation for great customer service. A country like China has an extremely high power distance score, and thus, tourists have been known to complain about how rude the people are. This leads to poor customer service. Another dimension that can make customer service effective is the masculinity index. Societies with a low masculinity score (feminine societies), stand for a preference for cooperation, modesty, and caring. Canada has a low masculinity index according to Hofstede, so they reflect an empathetic view of the world. This makes them perfect for providing great customer service where they treat each customer uniquely and respectfully, like they would want to be treated themselves. Again, China who has an extremely high masculinity index, suffers in this area. When you walk into a doctor's office at your local clinic, family physician, or other service provider (outside of the hospital), what is your typical experience like? Are you welcomed with a friendly smile, or are you met with a cold expression on the front office staff's face with directions to "grab a clipboard, fill it out, and wait until your name is called." Do you get to speak with an RN or CNA prior to meeting with your doctor to express your concerns, worries, current status, or are you expected to "just wait until the doctor sees you and they will know how to help." These are real responses from local North Texas clinic offices, and alarmingly it is more commonly occurring in the United States healthcare system than one would like to think. On top of that, it's that direct correlation between customer service and the efficiency and level of service delivered by a certified provider that, believe it or not, is costing healthcare networks millions of dollars in physician investment revenue. Now, one is left wondering how one goes about supplying the "change in the delivery of healthcare" when there is a lack of evidence, systematic and strategic approach that has application to the entire network. Within the healthcare services industries around the world, the largest gaps in customer service for front-office processing of patients pertain to the differences in cultural background, socioeconomic standings, and accessibility of resources to deliver a truly optimal practice. By examining the strategic gaps in front-office processes and qualitative dimensions*

*between three advanced capitalist democracies--United States, Switzerland, and Taiwan--we are able to see internationally tried and tested methods that drive fundamental keys to fiscally profitable, patient-centric care reform. As Americans clamor for "changes in the healthcare system", it is important to first analyze what specific elements draw the most dissatisfaction in customer service, look to see how our international counterparts perform these workflows similarly, differently, or productively, then evaluate what kind of financial impact that would have on a practice in the U.S. using benchmark data within the ambulatory and acute services sector from the MGMA and the New England Journal of Medicine. Direct reference to the resultants of Hofstede's 6D model, in comparison to each other, Taiwan scored highest in "Long Term Orientation"; which, when applied to the ambulatory and acute services markets within healthcare (regardless of payer structure), their level of investment to ensure a continuance and pragmatic approach to patient satisfaction scored the highest. Similarly, other assorted countries of South East Asia and the Far East were typically found at the long-term end of this dimension, as the societies reflected a hierarchal structure with a stronger presence of a Feminine (Masculinity) value system.*

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# DISASTER IN THE GULF OF MEXICO: A QUANTITATIVE ASSESSMENT OF U.S. GULF COAST IN-PORT GRAIN LOADING BEFORE AND AFTER THE 2010 BRITISH PETROLEUM OIL SPILL

**Daniel Adrian Doss, University of West Alabama**  
**Russ Henley, University of West Alabama**  
**Rebecca Goza, University of Central Oklahoma**  
**David McElreath, University of Mississippi**  
**Glenna Lusk, University of Mississippi**  
**Shimin Lin, University of West Alabama**

## ABSTRACT

*The 2010 BP oil spill represented one of the worst maritime calamities in American history. Despite its devastation, economic activity emerged succeeding the event. No guarantee exists that locations will recover completely and achieves the same level of normalcy that existed before disasters occur. Given these notions, this study briefly examines the in-port grain loading activities and levels among Gulf Coast ports before and after the 2010 BP oil spill. The outcome of the study showed a statistically significant difference between the examined periods.*

## INTRODUCTION

Sea ports along the Gulf of Mexico process a variety of international agricultural maritime shipments. Agricultural products both arrive at and depart from the U.S. among these ports. Based on U.S. Department of Agriculture data, annually processed agricultural tonnages for the top five Gulf Coast ports are presented within the following table (USDA, 2013):

<b>Table 1</b>				
<b>GULF COAST PORT TONNAGES</b>				
<b>Port</b>	<b>State</b>	<b>Imports</b>	<b>Exports</b>	<b>Total</b>
New Orleans	LA	1,905,984	59,716,467	61,622,451
Houston	TX	1,796,448	7,425,281	9,221,729
Corpus Christi	TX	39,385	4,068,528	4,107,913
Galveston	TX	298,841	3,343,325	3,642,166
Beaumont	TX	47,078	1,658,354	1,705,432

Note: Imports, exports, and totals are measured in metric tonnages.

Gulf Coast ports are integral resources for distributing materials via the Mississippi River (USDA, 2013). Thus, their functioning has the potential of impacting not only local and regional economies, but also the national economy. Disasters that eliminate or impair the functioning of an economic component also have the potential of affecting the national economy and impacting homeland security considerations (Doss, et al., 2016). Given such notions, calamities that impact

the Gulf Coast region must be considered seriously as incidents whose potential may affect economic performance through time.

The 2010 British Petroleum (BP) Gulf of Mexico oil spill was deemed to be the worst offshore oil spillage in American history (Doss, Glover, Goza, & Wigginton, 2015; McElreath, et al., 2014b). Approximately 206 million gallons of oil leaked during the incident (McElreath, et al., 2014b). The severity and devastation wrought by this incident surpassed the effects of the 1980s Exxon Valdez incident which leaked approximately 11 million gallons of oil (McElreath, et al., 2014a; McElreath, et al., 2014b). The response to the incident incorporated a variety of resources, ranging from prisoners to federal agencies (Doss, Sumrall, McElreath, & Jones, 2013). Despite the best efforts to effect recovery, communities within the Gulf Coast region have not fully reclaimed their economic potentials that existed before the incident (Schleifstein, 2015). Given this notion, this study investigated differences regarding Gulf Coast agricultural port activities before and after the 2010 BP oil spill.

### RESEARCH QUESTION AND HYPOTHESIS

The primary research question was stated as follows: is there a statistically significant difference between levels of U.S. Gulf vessel grain loading activity at Gulf Coast ports before the 2010 BP oil spill disaster versus after the 2010 BP oil spill disaster? Derived from this research question, the null hypothesis within this research study is given as follows:

*H1 This is no statistically significant difference between levels of in-port U.S. Gulf vessel loading activity at Gulf Coast ports before the 2010 BP oil spill incident versus after the 2010 BP oil spill incident.*

### METHODOLOGY

The methodology for this study involved the use of data obtained from the U.S. Department of Agriculture. The data set spanned a period of 21 years between the first quarter of 1995 and the first quarter of 2016. Data items represented the quantities of aggregated Gulf Coast in-port grain loading events that occurred weekly throughout the considered period. The data were separated into two separate groupings: a) data between 1995 and 2010 and b) data between 2010 and 2016. The demarcation point within the data set was the date of the BP oil spill on April 20, 2010. These separate data groups, representing before and after perspectives of the cataclysm, were examined via hypothesis testing.

Data processing was accomplished via the two-tailed, one-way analysis of variance (ANOVA) to examine the differences between grain loads among U.S. Gulf of Mexico ports before and after the 2010 British Petroleum oil spill. The ANOVA paradigm was selected because it facilitates an examination of means among multiple data sets to investigate whether the presence of a statistically significant difference exists via testing means for equality (Cooper & Schindler, 2010). When testing hypothesis, the two-tailed method implies that a null hypothesis may be rejected upwardly or downwardly by considering deviation (Dytham, 2011).

The ANOVA paradigm is appropriate when one independent variable exists within a research endeavor (Coladarci, Cobb, Minium, & Clarke, 2011). Within this study, the independent variable represented load change whereas the dependent variable consisted of data preceding the event and data succeeding the event thereby representing two groupings of data. The means of the examined data sets were evaluated for equality via hypothesis testing. When

performing hypothesis tests, the p-value approach represents a method of determining whether the null hypothesis,  $H_0$ , may be rejected (Petrie & Watson, 2013). The p-value approach represented the hypothesis testing method for this study. The level of significance for performing the hypothesis test was 0.05.

Effect size reflects the variance proportion of the dependent variable that may be explainable by the attributes of the independent variable (Nolan & Heinzen, 2012). Essentially, an effect size indicates the largeness of effect regardless of the size of the sample (Doss, 2014). Within this study, the Omega-squared method was used to examine the characteristics of effect size regarding the hypothesis testing outcome.

Derivation of percent change shows the amount of change that occurred within a given variable (Wessels, 1997). Within this study, the value of percent change was calculated to examine quantitatively the amount of change that occurred regarding the periods before and after the BP oil spill incident.

### FINDINGS

The following tables show descriptive characteristics for the evaluated data items.

<b>Period</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Variance</b>	<b>Median</b>	<b>Mode</b>
Cumulative	34.22	12.18	148.26	33	29
Before Event	33.27	11.10	123.27	32	29
After Event	36.67	14.31	204.67	36	33

Note. Demarcation point separating event data was April 20, 2010. Units of measurement represent weekly values of in-port events.

Using the p-value approach, hypothesis testing revealed a statistically significant outcome ( $p = 0.00002$ ) regarding the considered hypothesis. The significance level for hypothesis testing was 0.05 (i.e.,  $p < 0.05$ ). Thus, the null hypothesis,  $H_0$ , was rejected. It appears that a statistically significant difference exists between in-port levels of U.S. Gulf vessel loading activity at Gulf Coast ports before the 2010 BP oil spill incident versus after the 2010 BP oil spill incident.

Given the existence of a statistically significant difference, the hypothesis testing outcome may be considered with respect to effect size. Using the Omega-squared method, the effect size value was determined to be 0.015. Barker, McCarthy, Jones, and Moran (2011) indicate that effect size values below 0.20 represent low, small effects regarding the interaction between the independent and dependent variables. Thus, given an effect size of 0.015, little effect is suggested regarding the interaction between the independent and dependent variables examined within this study.

Percent change was considered regarding the periods before and after the BP oil spill incident. The percent change outcome value was determined to be 10.21%. This outcome suggests increases regarding the total loading activities occurring with respect to the periods before and after the 2010 BP oil spill, however at a diminished level than that which been trending prior to the disaster. The examined period ranges from 15 years before the event to six years after the event.

## CONCLUSION

The BP oil spill was one of the worst maritime calamities in American history. Given the findings of this study, a statistically significant outcome ( $p = 0.00002$ ;  $\alpha = 0.05$ ) exists regarding the grain loading activities before and after the incident. Examining the loading levels preceding and succeeding the event indicated total percent change value of 10.21% thereby indicating diminished activity levels with respect to prior monthly trends. Of particular interest, a monthly percentage change analysis depicts the diminished activity levels immediately following the month of the disaster.

The negative effects of man-made disasters have affected the American economy multiple times. Despite the best efforts to achieve normalcy after an incident occurs, not all scenarios generate a full recovery. For instance, the city of Galveston, Texas never regained its economic status as a Gulf Coast port after experiencing a 1900 hurricane (McElreath, et al., 2016). Similarly, New Orleans did not fully reclaim its former glory following Hurricane Katrina (McElreath, et al., 2016). Six years after the oil spill, given the outcomes of this study, some arguments may be made that the affected Gulf Coast grain loading activity has not fully recovered and achieved the level of normalcy that existed before the cataclysm.

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# CONSIDERING CHINESE PHILOSOPHY, BUSINESS, AND WESTERN EDUCATION

**Mingyu Li, University of Miami**  
**Daniel Adrian Doss, University of West Alabama**  
**Russ Henley, University of West Alabama**

## ABSTRACT

*This paper represents a brief review of Chinese business philosophy and business relationships. The philosophies of Guan Zhong, Xun Zi, Confucius, Mencius, Sun Tzu, and Lao Tzŭ are introduced. This paper provides a brief commentary regarding these Chinese philosophies within the context of international business and academic regimens from the perspective of business education.*

## INTRODUCTION

The relationship between the United States and China demonstrates a substantial connection financially and economically. For instance, regarding 2014 trade with China, the U.S. exported \$123,675.7 million in goods and services, and imported \$466,754.5 million in goods and service thereby showing a negative U.S. trade balance of -\$343,078.8 million dollars (U.S. Census Bureau, 2016). Some of these business relationships are amiable and productive whereas others are impeded by misunderstanding and difficulties (Ambler, Witzel, & Xi, 2008). For example, Kentucky Fried Chicken (KFC) restaurants have generated much Chinese success whereas Metro Plastics Technologies, Inc., experienced much difficulty and misunderstanding when attempting to install, operate, and maintain Chinese molding facilities (Conis, 2007). Despite many successful business outcomes, differences among managerial philosophies and cultural attributes often impede business relationships and interject difficulties.

Unlike the experiences of Japan, in which philosophies of total quality management and lean manufacturing tenets were accepted readily by Western organizations, there exists no dominating Chinese management philosophy that is commensurately and overwhelmingly embraced by Western organizations (Ambler, Witzel, & Xi, 2008). As markets emerge and mature, the managers of Chinese firms develop unique methods and operations which may be contrary to Western management philosophies (Ambler, Witzel, & Xi, 2008). Trust is a considerable aspect of these relationships (Chen, Doss, & Holland, 2008). Gebauer and Fischer (2009), regarding manufacturing and partnering between European and Chinese organizations, indicates that learning relationships be forged when attempting to understand the needs of Chinese consumers.

The educational setting also has witnessed partnering. During recent years, China represented the dominant source of foreign students among American institutions of higher learning (Qingfeng, 2013). Numerous American colleges and universities are entering the Chinese market and establishing residential campuses in China. For instance, New York University established a campus in Shanghai (Lai, 2013). Such American presences in the Chinese market are significant accomplishments between bridging cultures and providing opportunities for Chinese students to earn an education from a reputable American institution.

Chinese students who graduate from domestic, traditional American institutions and then re-enter Chinese culture may be disadvantaged initially within the Chinese job market (Zhao, 2013). This situation occurs because such individuals are labeled as *hai gui*, a term that represents someone who studied overseas and returned to China (Cangbai, Siu-Lun, & Wenbin, 2006). Although approximately 72% of the Chinese students who study abroad eventually return to China either after working a few years or academic study, at least 70% of employers do not treat preferentially *hai gui* prospects, and approximately 8% find them undesirable (Zhao, 2013). A variety of factors contribute to this recalcitrance, ranging from the diminished *guan xi* of the individual after having been apart from Chinese culture to differences regarding salary expectations (Zhao, 2013).

## CHINESE PHILOSOPHERS AND MANAGEMENT

The teachings of several philosophers have influenced management theories among Chinese markets and academics. The salient characteristics of their philosophies are summarized as follows:

*Xun Zi* – Xun Zi expressed the notions that “water and fire have breath, but no life; vegetations are animate, but without awareness; animals have awareness, but no righteousness,” and that humans possess all of these attributes and are the “most valuable on the world (Wei & Zhang, 2011, p. 241).” His writings emphasized the meaning of the earth and heavens as foundations for natural law and management, and represented and established the hierarchical importance of managerial structuring with respect to such observances.

*Guan Zhong* – Guan Zhong expressed the foundational teaching of *qing zhong* regarding political economics. His writings embodied “government manipulation of goods and prices by purchasing or otherwise acquiring grain and other critical commodities when they are plentiful and cheap (*qing*) and selling them when the price has been driven up by naturally or artificially created shortages (*zhong*) (Cheng, 1998, p. 359).” By observing the economics of supply and demand, coupled with exploiting pricing opportunities, he indicated that government entities may reap profits while avoiding public dissatisfaction that may arise from taxation.

*Confucius* – Confucius emphasized human values through expressing that the “moral life is not following the spiritual authority or God, but to follow humanistic sensitivity and reflection (Huang, 2011, p. 159).” Confucius advocated the notions of leading by example, self-cultivation, task initiation, and benevolence (Wei & Zhang, 2011).

*Mencius* – Mencius furthered the tenets of Confucius by believing emphatically in governing humanely, and expressed that people were of greatest importance within the context of government (Ramos, 2004). He also disavowed “righteousness to utility, advantages, and profit,” and his writings also included the corruption of individuals resulting from lackluster management (Ramos, 2004, p. 51). Further, his tenets also reflected concepts that are common among modern production and operations management settings through expressions regarding divisions of labor and their advantages (Nanda, 2006).

*Sun Tzu* – Other than Confucius, Sun Tzu is probably one of the most well-known and easily recognized Chinese philosophers. Most notably, he authored the *Art of War*. This work contributes much to management theory ranging from the necessity of strategy to the humane treatment of personnel. Further, it must be noted that business and war are not identical entities. However, they share common attributes (e.g., planning, logistics, human resources, etc.) that are relevant to managed environments.

*Lao Tzǔ* -- Lao Tzǔ is credited with expressing three ethical codes that influence management theory: kindness (i.e. generosity), thrift (i.e., austerity), and docility (Ma, 2009). His writings encompassing moral standards also influence managed environments: integrity, modesty, and pragmatism (Ma, 2009). Cumulatively, his philosophies contribute to crafting organizational environments and generating peaceful interpersonal relationships regarding commonness of values toward generating motivation and enthusiasm (Ma, 2009).

Examining the teachings of the aforementioned Chinese philosophers demonstrates strong inclinations regarding the developing of personal relationships among managed environments. They impact aspects of both business performance and personal experiences in a variety of ways ranging from trustfulness and intimacy between persons to the methods through which resources are allocated and managed. Certainly, they also have implications for corporate governance. For instance, in some cases, Goh (2008) indicates that organizational transparency may be diminished within the context of Confucianism. Regardless of the context, familiarity and an observance of Chinese philosophies embellishes the ability of American and Chinese organizations to successfully conduct business endeavors mutually.

These notions are pertinent within the context of management classes. Within the domestic U.S., very little about these philosophers are considered within foundational courses in management despite the increasing quantity of business and educational relationships that are forming with Chinese organizations. During contemporary times, among undergraduate curriculums, few academic institutions incorporate a business philosophy course in which a plethora of different cultural business philosophies are discussed. For American institutions that manifest overseas campuses in China, an opportunity exists through which these concepts may be integrated within management teachings. Given the plethora of Chinese students entering domestic business schools, some mentioning of these philosophies may be pertinent within the context of international business and management classes or international strategic management classes that involve Asian case studies. They may also be beneficial as preparatory materials for American students that are contemplating Asian internships. Conversely, they may be applicable for Chinese students whom seek American internships.

Numerous business collaborations exist between the United States and China. Examples of such endeavors include partnerships between General Motors and the Pan Asia Technical Automotive Center for automobile production; Merck and Simcere Pharma for pharmaceutical developments; Hormel Foods and Da-Chang Further Processing Meat Company to form Shanghai Hormel Foods Co. Ltd; and China's GCL-Poly Energy Holdings, Ltd. and SolarReserve. Certainly, there are numerous others. Each of these relationships spans nations, involves significant capitalization, and affects a plethora of stakeholders internationally. Especially among Asian operations, permeating these concepts is the notion of Chinese business philosophy.

Conceptualizing Chinese business philosophies is often difficult for westerners. Similarly, conceptualizing American business philosophies is often difficult for Chinese entities. Cultural differences often create problematic scenarios and misunderstandings that adversely impact business endeavors and transnational relationships. When considering a relationship with A Chinese entity or conducting Asian operations, Lam recommends that approaching cultural understanding and fashioning trustful relationships involves asking "Americans to accommodate the Chinese more and to listen to their advice (Lam, 2000, p. 70)."

Chinese philosophies have impacted business environments within the relationships between U.S. and Chinese organizations. Conducting business with Chinese organizations

necessitates the crafting and maturing of strong personal relationships between American and Chinese managers and leaders (Haley, Valey, & Tan, 2004). Such relationships may also be viewed as derivatives of family relationships thereby signifying attributes of trustfulness, performance expectations, and loyalty (Haley, Valey, & Tan, 2004). These degrees of intimacy may interject difficulty with respect to the objectivity of rendering business decisions that are in the best interest of the organization (Haley, Valey, & Tan, 2004). Such social contexts differ geographically among nations, and must be considered by organizations when rendering decisions or examining courses of actions that affect the organization, its stakeholders, or the public (Doss, Guo, & Lee, 2012).

The Art of War, authored by Sun Tzu, affects business relationships and functions from a variety of perspectives. McNeilly (2012) indicates that Sun Tzu's strategies provides advantages to organizations when attempting to accomplish the following: 1) capturing market share; 2) leveraging market information and intelligence for competitive advantage; 3) speed to market regarding products and services; 4) crafting and implementing business strategy; 5) instantiating character among managers and leaders; 5) innovativeness and business security; and 6) the implementing of cumulative business strategy, tactics, and operations through time. Krause (2005) indicates that the tenets of Sun Tzu are also beneficial tactically and operationally throughout enterprises, ranging from the functions of personnel training and discipline to the acts of personnel selection and gathering of intelligence.

Examining the tenets of the aforementioned philosophers also shows allusions to the concepts of people-oriented management. This emphasis is indicative of the importance of humans within the context of management – both those whom are managed, and the managers whom are responsible for rendering organizational decisions. These philosophies impact the primary managerial functions of controlling, coordinating, leading, organizing, staffing, directing, and planning.

These areas are also affected within the contexts of strategic, tactical, and operational functions that impact the long-term, short-term, and immediate decisions that are rendered among organizations. These observations are also reflective of the notion that Chinese business philosophy affects the intangible characteristics of business (e.g., motivation, trust, etc.) as well as the tangible attributes of business (e.g., supply lines, product development, etc.). Because of these business considerations, Chinese philosophy represents a concept that may be beneficial among undergraduate business management courses involving Asian and/or Chinese case studies. Academic institutions enhance their competitiveness by satisfying some unique, niche market (Doss, et al., 2015). Incorporating materials addressing such philosophers and business concepts within curriculums may satisfy a unique niche, and attract both domestic and international students among higher education institutions.

## CONCLUSION

Chinese philosophy has a rich history that affects modern business settings. However, the discussions herein indicate that no solitary Chinese philosophy is dominant within the context of management with the same scope and magnitude that were afforded total quality management or lean concepts that emerged from Japan during the twentieth century (Ambler, 2008). Despite the lacking of a dominant philosophy, Chinese business philosophies undeniably affect international business relationships and managed environments. These notions are not always taught among American classrooms. Within Chinese business philosophy, the leveraging of the familial aspects of such relationships must neither be taken lightly or ignored completely regarding the sanctity

of trustfulness that contributes toward the foundation of working, healthy business functions. The Chinese business philosophies that impact personnel management influence the productivity, efficiency, and effectiveness of the functioning of organizations that enter transnational relationships. Such philosophies also contribute toward the motivating of personnel to perform their individual and group functions with respect to the overall benefitting of international collaborations. The strengthening of business relationships that exist between Chinese organizations or that involve Chinese personnel and the organizations and personnel of other nations must integrate and accommodate multiple cultures. Through understanding and leveraging the basic tenets of Chinese philosophies that affect transnational business environments, international business alliances and ventures, organizations may overcome cultural and philosophical differences that challenge problematically the leaders of both Chinese and American organizations. Both Western and Eastern higher education entities may consider these notions.

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